

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A compound of formula II,



formula II

wherein Ar is selected from the group consisting of an optionally substituted aryl ring, an optionally substituted aryl ring fused with one or more non-aromatic optionally substituted carbocyclic rings, an optionally substituted aryl ring fused with one or more optionally substituted non-aromatic heterocyclic rings, an optionally substituted aryl ring fused with one or more optionally substituted aromatic or heteroaromatic rings,

C(O) is absent or a carbonyl carbon;

E is absent or selected from the group consisting of O and NH;

G is absent or selected from the group consisting of C₁₋₆-alkyl, C₃₋₇-cycloalkyl, C₁₋₆-alkyl-C₃₋₇-cycloalkyl, C₃₋₇-cycloalkyl-C₁₋₆-alkyl;

wherein BN is a basic nitrogen moiety selected from the group consisting of an amine group, an amide group, a carbamate or a carbamate derivative, urea or a urea derivative, a carbazimidamide, a nitrogen-containing heterocyclic, a nitrogen-containing heteroaryl ring, and an azabicyclic ring;

L is absent or selected from the group consisting of optionally substituted C₁₋₁₀-alkyl, optionally substituted C₂₋₁₀-alkenyl, optionally substituted C₂₋₁₀-alkynyl, C₁₋₁₀-alkylamine, C₁₋₁₀-alkoxy, C₂₋₁₀-alkenyloxy, C₂₋₁₀-alkynyloxy, C₁₋₁₀-alkoxycarbonyl, C₂₋₁₀-alkenyloxycarbonyl, C₂₋₁₀-alkynyloxycarbonyl; and

A is selected from the group consisting of C(O)-OR¹, OP(O)OR²OR², P(O)OR²OR², SO₂OR², SO₃H, OSO₃H, and PO₃H; wherein R¹ and R² are independently selected from the group consisting of H, M, C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl, aryl, and R^{1,2} wherein R^{1,2} is R'-O-C(O)-R'', R'-O-C(O)-O-R'', R'-C(O)-O-R'', wherein R' and R'' are independently selected from the group consisting of C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl and aryl.

2. (Withdrawn) The compound of claim 1, wherein the basic nitrogen moiety is selected from the group consisting of pyridyl (pyridinyl), pyrimidinyl, thiazolyl, pyrazolyl, imidazolyl, tetrazolyl, indolyl, indolenyl, quinolinyl, isoquinolinyl, benzimidazolyl, piperidinyl, 4-piperidonyl, pyrrolidinyl, 2-pyrrolidonyl, pyrrolinyl, tetrahydroquinolinyl,

tetrahydroisoquinoliny, decahydroquinoliny or octahydroisoquinoliny, azociny, triazinyl, 6H-1,2,5-thiadiaziny, 2H, 6H-1,5,2-dithiaziny, phenoxathiiny, 2H-pyrroly, pyrroly, imidazolyl, pyrazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyridiny, pyraziny, pyrimidiny, pyridaziny, indoliziny, isoindolyl, 3H-indolyl, indolyl, 1H-indazolyl, puriny, 4H-quinoliziny, isoquinoliny, quinoliny, phthalaziny, naphthyridiny, quinoxaliny, quinazoliny, cinnoliny, pteridiny, 4a H-carbazole, carbazole, .beta.-carboliny, phenanthridiny, acridiny, perimidiny, phenanthroliny, phenaziny, phenarsaziny, phenothiaziny, furazany, phenoxaziny, pyrrolidiny, pyrroliny, imidazolidiny, imidazoliny, pyrazolidiny, pyrazoliny, piperidiny, piperaziny, indoliny, isoindoliny, quinuclidiny, morpholiny or oxazolidiny. Preferable heterocyclic groups include piperidino, morpholino, thiamorpholino, pyrrolidino, pyrazolino, pyrazolidino, pyrazoryl, piperaziny, thienyl, oxazolyl, tetrazolyl, thiazolyl, imidazolyl, imidazoliny, pyrazolyl, pyridyl, pyrimidiny, pyrroly, pyrrolidiny and quinolyl, each of which may be optional substituted.

3. (Withdrawn) The compound of claim 1, wherein Ar is selected from substituted benzyl, naphthalene, indoline, indole, oxazinoindoline, indolizine, isoindoline, indene, indane, indazole, azulene, benzimidazole, benzofuran, benzothiophene, benzthiazole, purine, 4H-quinolizine, quinoline, isoquinoline, cinnoline, phthalazine, quinazoline, quinoxaline, 1,3-naphthyridine, pteridine, coumaran, benzodioxane, benzopyran, chroman, isochroman, carbazole, acridine, phenazine, phenothiazine, phenoxazine, thianthrene, phenanthrene, anthracene, tetraline, fluorene, and acenaphthylene, each of which may be optionally substituted.

4. (Withdrawn) The compound compound of claim 1, wherein L absent or selected from the group consisting of straight chain or branched optionally substituted C₁₋₁₀-alkyl, C₁₋₁₀-alkylamine, C₁₋₁₀-alkoxy, and C₁₋₁₀-alkoxycarbonyl.

5. (Withdrawn) The compound of claim 1, wherein A is selected from the group consisting of -C(O)-OR¹, and -P(O)OR²OR², wherein R¹ and R² are independently selected from the group consisting of H, M, C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl, and aryl.

6. (Withdrawn) The compound of claim 2, wherein the basic nitrogen moiety is selected from the group consisting of carbazimidamide and optional substituted piperidiny.

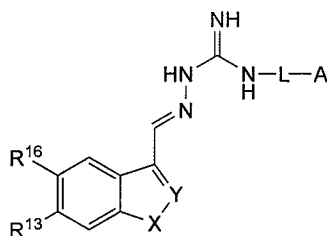
7. (Withdrawn) The compound of claim 3, wherein Ar is selected from benzyl, naphthalene, indole, benzodioxane, indazole, and oxazinoindole.

8. (Withdrawn) The compound of claim 1, wherein G is absent or selected from the group consisting of C₁₋₆-alkyl, preferably absent or C₁₋₃-alkyl.

9. (Withdrawn) The compound of claim 1, wherein L is absent or selected from the group consisting of optionally substituted C₁₋₈-alkyl and wherein A is selected from the group consisting of -C(O)-OR¹, and -P(O)OR²OR², wherein R¹ and R² are independently selected from the group consisting of H and C₁₋₁₅-alkyl.

10. (Withdrawn) The compound of claim 1, wherein G is absent or C₁₋₃-alkyl, the basic nitrogen moiety is selected from the group consisting of carbazimidamide and optional substituted piperidinyl and wherein L is absent or selected from the group consisting of optionally substituted C₁₋₈-alkyl.

11. (Withdrawn) The compound of claim 1 of the formula VI,



formula VI

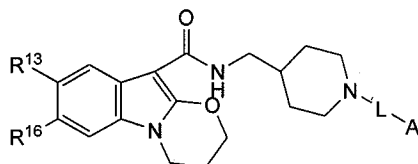
wherein X and Y are independently selected from the group consisting of NH, O, C, and S;

L is absent or selected from the group consisting of straight chain or branched optionally substituted C₁₋₁₀-alkyl, optionally substituted C₂₋₁₀-alkenyl, optionally substituted C₂₋₁₀-alkynyl, C₁₋₁₀-alkylamine, C₁₋₁₀-alkoxy, C₂₋₁₀-alkenyloxy, C₂₋₁₀-alkynyloxy, C₁₋₁₀-alkoxycarbonyl, C₂₋₁₀-alkenyloxycarbonyl, C₂₋₁₀-alkynyloxycarbonyl;

A is selected from the group consisting of -C(O)-OR¹, -OP(O)OR²OR², -P(O)OR²OR², -SO₂OR², and PO₃H; wherein R¹ and R² are independently selected from the group consisting of H, M, C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl, aryl, and R^{1,2} wherein R^{1,2} is R'-O-C(O)-R'', R'-O-C(O)-O-R'', R'-C(O)-O-R'', wherein R' and R'' are independently selected from the group consisting of C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl and aryl;

and R¹⁶ and R¹³ are independently selected from the group consisting of H, OH, halogen, NH₂, O-C₁₋₆-alkyl, and C₁₋₆-alkyl.

12. (Currently amended) ~~The A compound of claim 1 of the~~ represented by formula IV-P



formula IV-P

wherein L is absent or selected from the group consisting of straight chain or branched optionally substituted C₁₋₁₀-alkyl, optionally substituted C₂₋₁₀-alkenyl, optionally substituted C₂₋₁₀-alkynyl, C₁₋₁₀-alkylamine, C₁₋₁₀-alkoxy, C₂₋₁₀-alkenyloxy, C₂₋₁₀-alkynyloxy, C₁₋₁₀-alkoxycarbonyl, C₂₋₁₀-alkenyloxycarbonyl, C₂₋₁₀-alkynyloxycarbonyl; and

A is selected from the group consisting of -C(O)-OR¹, -OP(O)OR²OR², -P(O)OR²OR², -SO₂OR², and PO₃H; wherein R¹ and R² are independently selected from the group consisting of H, M, C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl, aryl, and R^{1,2} wherein R^{1,2} is R'-O-C(O)-R'', R'-O-C(O)-O-R'', R'-C(O)-O-R'', wherein R' and R'' are independently selected from the group consisting of C₁₋₁₅-alkyl, C₃₋₈-cycloalkyl and aryl;

R¹³ is selected from the group consisting of H, halogen, NH₂, and C₁₋₆-alkyl; and

R¹⁶ is selected from the group consisting of H, halogen, OH, O-C₁₋₆-alkyl, and C₁₋₆-alkyl.

13. (Withdrawn - currently amended) A method of treating a cardiovascular disorder in an individual in need thereof, comprising providing a therapeutically effective amount of the compound of claim ~~1~~12, or a pharmaceutically acceptable salt thereof, to said individual.

14. (Withdrawn - currently amended) A method of treating a gastrointestinal disorder in an individual in need thereof, comprising providing a therapeutically effective amount of the compound of claim ~~1~~12, or a pharmaceutically acceptable salt thereof, to said individual.

15. (Withdrawn) The method of claim 13, wherein the cardiovascular disorder is selected from the group consisting of tachycardia, bradycardia, cardioexcitation, cardiodepression, arrhythmia, fibrillation, atrial fibrillation, Paroxysmal Supraventricular Tachycardia (PSVT), thromboembolisms and VTE.

16. (Withdrawn – currently amended) The method of claim 14, wherein the gastrointestinal disorder is selected from the group consisting of ~~irrital~~irritable bowel syndrome, gastrointestinal hypomotility disorders, gastro-esophageal reflux, heartburn, mild oesophagitis, functional or nonulcer dyspepsia, gastroparesis, nausea, vomiting, early satiety in the elderly, paraneoplastic of HIV-associated gastroparesis, drug-induced delays in gastric emptying, functional bowel obstructions, bowel obstructions caused by pancreatic cancer or drugs, and emesis.

17. (Withdrawn - currently amended) A method of treating a disease associated with a peripheral 5HT receptor in an individual in need thereof comprising providing the compound of claim ~~4~~12, or a pharmaceutically acceptable salt thereof, to said individual.

18-19. (Canceled)

20. (Withdrawn - currently amended) A method of treating a lower urinary tract disorder in an individual in need thereof comprising providing the compound of claim ~~4~~12, or a pharmaceutically acceptable salt thereof, to said individual.

21. (Withdrawn) The method of claim 17, wherein the 5-HT receptor is a 5-HT₄ receptor subgroup.

22. (New) A pharmaceutical composition, comprising:
a compound according to claim 12; and
a pharmaceutically acceptable excipient.